

Remarks

Rejections Under 35 USC 103

In the final rejection, the Examiner continues to reject claims under 35 USC 103 on the basis of the previously cited prior art using the same language as used in the previous Office Action. Respectfully, Applicant notes in the Amendment filed on September 5, 2001, Applicant's attorney stated that it was inappropriate to combine the cited art, and that such rejection involved impermissible hindsight on the part of the Examiner. This argument regarding combining prior art has yet to be considered. There is no hint or motivation to one skilled in the art in either Ito, Szarmes, or Ashida to combine the art to produce the claimed invention, and the Examiner has not provided any discussion as to why he felt the combination was NOT an application of hindsight.

Valid rejection under 35 USC 103(a) requires evidence of a suggestion or motivation for one skilled in the art to combine prior art references to produce the claimed invention. US Court of Appeals for the Federal Circuit (*Ecolochem inc. v Southern California Edison Co., Fed. Cir.*, No. 99/1043, 9/7/00).

The best defense against hindsight-based obviousness analysis is the rigorous application of the requirement for showing a teaching or motivation to combine the prior art references, according to the court.

Neither, Ito, nor Szarmes, nor Ashida motivate or suggest to one skilled in the art to combine these references to produce Applicant's claimed invention.

Recently, in *In Re Sang-Su Lee* (00-1158) the Court of Appeals for the Federal Circuit rendered a decision confirming the above principles. The court analyzed 35 USC 103 requirements starting from the Administrative Procedure Act and held (citations omitted):

“Tribunals of the PTO are governed by the Administrative Procedure Act, and their rulings receive the same judicial deference as do tribunals of other administrative agencies.

“The Administrative Procedure Act, which governs the proceedings of administrative agencies and related judicial review, establishes a scheme of “reasoned decision making.” Not only must an agency’s decreed result be within the scope of its lawful authority, but the process by which it reaches that result must be logical and rational.

“As applied to the determination of patentability vel non when the issue is obviousness, it is fundamental that rejections under 35 USC §103 must be based on evidence comprehended by the language of that section. (Emphasis added). When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. (Emphasis added)

“The factual inquiry whether to combine references must be thorough and searching. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. There must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the Applicant. Teachings of references can be combined only if there is some suggestion or incentive to do so.”

As stated above, **Ito and Szarmes do not motivate or suggest to a person skilled in the art to combine these references to duplicate the claims of the present invention.**

Applicant respectfully requests that the Examiner now consider the impermissible hindsight argument in this Request for Continued Examination.

Rejection Under 35 USC 102

The Advisory Action of August 26, 2002 states that claims 1, 2, 4, 5, 7-11, and 13-19 are rejected on the basis of the patent to Kubota. Applicant's attorney had a telephone discussion with the Examiner on November 12, 2002, in which the Examiner's Advisory Action of August 26, 2002 was discussed. The Examiner stated that he would enter the claims of the Amendment After Final Action, but claim 15 remained rejected on the basis of the patent to Kubota.

With respect to claim 15, in the telephone discussion with the Examiner, the Examiner stated that claim 15 covers any flat piece of fluoride crystal. The Examiner asked whether claim 15 could be limited further, such as limiting the claims to lithography, or microlithography, or that Applicant add the intended use features associated with microlithography, such as is found in claims 8 or 9.

Claim 15 is now further amended to recite:

"A microlithographic reticle arrangement for use in [A] a pellicle consisting of fluoride crystal."

Applicant respectfully points out that, in the Advisory Action of August 26, 2002, the Examiner fails to see the difference between the claimed "membrane consisting (only) of fluoride crystal" and Kubota's disclosure of a "membrane (with a base material of some sort) provided on the surface (i.e., covered) with a film of magnesium fluoride". In Kubota, the fluoride is only one of a plurality of layers. In contrast, the present invention teaches a "thin diaphragm" that is entirely of fluoride. This is the same analogy as an enameled metal plate (Kubota) compared to a glass plate (the present invention). This is an inventive distinction between Kubota and the present invention.

Applicant's attorney respectfully believes the amended claims, through their limitations, overcome the Examiner's previous objections to the claims, and incorporate the Examiner's suggested changes.

A five month extension of time is requested in which to submit this Request for Continued Examination. The appropriate form requesting the five month extension, as well as PTO Form 2038 authorizing charging a credit card for the prescribed \$1,960 Large Entity extension fee is included herewith, as well as the \$740 Request for Continued Examination Fee.

Wherefore, further consideration and allowance of the claims in this application is respectfully requested.

Respectfully submitted,



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I hereby certify this correspondence is being deposited with the U.S. Postal Service as a first class mail in an envelope with adequate postage addressed to Commissioner for Patents, Washington, D.C. 20231 on December 30, 2002.



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**“Version with Markings to show Changes Made”**

Claim 1: A reticle with support material of transparent, optically uniaxial crystal, in which the principal axis of said crystal is substantially perpendicular to the surface of said reticle.

Claim 2: A reticle based on  $\text{MgF}_2$  as support material, in which the principal axis of said  $\text{MgF}_2$  is oriented substantially perpendicular to the surface of said reticle.

Claim 4: The reticle according to claim 1, further comprising a cooling device.

Claim 5: The reticle according to claim 4, in which said cooling device has a flowing fluid.

Claim 7: The reticle according to claim 2, further comprising a cooling device.

Claim 8: An illumination equipment for microlithography comprising:

an illumination system, and

a reticle with magnesium fluoride as support material,

in which said illumination system provides radially polarized light and said magnesium fluoride is oriented with its crystal principal axis substantially in the direction of the optical axis at said reticle.

Claim 9: An illumination equipment for microlithography comprising:

an illumination system,

a reticle with support material of transparent optically uniaxial crystal,

in which said illumination system provides radially polarized light and said support material is oriented with its principal axis substantially in the direction of the optical axis at said reticle.

Claim 10: The illumination equipment according to claim 8 or 9 with a cooling device with a flowing fluid.

Claim 11: The reticle according to claim 18, further comprising a fluid cooling system.

Claim 13: The reticle according to claim 19, in which said flat plate comprises crystal.

Claim 14: The reticle according to claim 13, in which said crystal comprises one of  $\text{CaF}_2$  and  $\text{MgF}_2$ .

Claim 15 (Amended four times): A microlithographic reticle arrangement for use in a [A] pellicle consisting of fluoride crystal.

Claim 16: The pellicle according to claim 15, comprising a fluoride selected from the group consisting of  $\text{CaF}_2$ ,  $\text{BaF}_2$ , or  $\text{MgF}_2$ .

Claim 17: A reticle with support material of transparent, optically uniaxial crystal, in which the principal axis of said crystal is oriented perpendicular  $\pm 5^\circ$  to the surface of said reticle.

Claim 18: A reticle based on  $\text{MgF}_2$  as support material, in which the principal axis of said  $\text{MgF}_2$  is oriented perpendicular  $\pm 5^\circ$  to the surface of said reticle.

Claim 19: An illumination equipment for microlithography comprising:  
an illumination system,  
a reticle with an optical axis and support material of transparent optically uniaxial crystal, wherein said illumination system provides radially polarized light and said support material is oriented with its principal axis substantially in the direction of said optical axis at said reticle,  
further comprising at least one flat plate arranged parallel at said reticle, in which a fluid flows between said reticle and said at least one flat plate.